

RESPONSE UNDER 37 C.F.R. § 1.111

Application No.: 09/485,820

Atty Docket No.: Q57694

The present invention, as set forth in claim 1, is directed to a solid pesticidal formulation enveloped in a water-soluble substance. The solid pesticidal formulation comprises at least one water soluble hydroxy compound selected from the group consisting of alkanols, ethylene glycol, propylene glycol, tri- or more valent alcohols, alcoholamines, lactic acid and hydroxy fatty acid esters. The solid pesticidal formulation is a formulation selected from wettable powders, water dispersible granules and water soluble formulations.

The patent to Levy is directed to controlled delivery or controlled release composition and process for treating organisms in a column of water or on land.

Levy discloses a wide variety of controlled release compositions, and describes a variety of components that can be present in a controlled release composition, but Levy nowhere discloses any examples of a solid pesticidal formulation enveloped in a water soluble substance, where the solid pesticidal formulation comprises at least one water soluble hydroxy compound selected from the compounds set forth in claim 1, and where the solid pesticidal formulation is a formulation selected from wettable powders, water dispersible granules and water soluble formulations.

In the Office Action, the Examiner states that he is maintaining the rejection of record, and responds to a number of the argument that applicants submitted in the Response Under 37 C.F.R. § 1.111 filed on June 5, 2003. Applicants maintain those arguments.

In response to the arguments that applicants have submitted, the Examiner states that nowhere in the claim is there a requirement for complete encapsulation of a pesticide.

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The Examiner also states that the solid pesticidal formulation set forth in the present claims is shown by Levy because there is no requirement in the present claims of intimate contact of the solid by an enveloping alcoholic compound constituting part of the granule or powder.

The Examiner further states that the zip lock bag of Levy encloses the solid, thus, satisfying the requirements of the present claims.

These statements indicate that the Examiner has misinterpreted the meaning of the present claims, and that his analysis of the requirements of the present claims is not correct.

In particular, with respect to the Examiner's statement that nowhere in the claim is there a requirement for complete encapsulation of a pesticide, applicants point out that the term "envelop", according to the Merriman-Webster online Dictionary, a copy of which is attached, means "to enclose or enfold completely with or as if with a covering" (emphasis added).

Thus, an "enveloped" formulation as set forth in claim 1 would be a formulation that is, by definition, completely enclosed or completely covered, and is clearly distinct from the teachings of Levy. Therefore, applicants submit that claim 1 does require complete encapsulation of a pesticide.

With respect to the Examiner's statement that "there is no requirement of intimate contact of the solid by an enveloping alcoholic compound constituting part of the granule or powder", applicants point out that the Examiner has misinterpreted the recitations of claim 1. Thus, claim 1 nowhere states that the alcoholic compound envelops the granule or the powder. Claim 1

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merely states that the water-soluble hydroxy compound forms a part of the solid pesticidal formulation. It is this solid pesticidal formulation which is enveloped in a water-soluble substance.

Finally, with respect to the Examiner's assertion that Levy discloses a zip lock bag that encloses the solid and thus satisfies the present claims, this interpretation by the Examiner requires that the zip lock bag be a water-soluble substance. Applicants submit, however, that a zip lock bag is a water insoluble substance.

In support of applicants' position that a zip lock bag is water-insoluble, applicants point out that a Zip lock® bag is a polyethylene bag. It is well known that polyethylene is not soluble in water. For example, the plastic bags which consumers are given when consumers buy products in a supermarket or convenience store, are made of polyethylene, and it is easy to confirm that they are not soluble in water. Applicants enclose herewith (1) a copy of a printout from the QOSMEDIX website that discloses that zip lock bags are made from polyethylene, and (2) a copy of a two page printout from a website describing various "closing methods" for bags. One of the closing methods appears under the heading "Zip lock", which is described as being the application of a special profile at the bag mouth, and well known for polyethylene bags.

Further, the Merck Index, Eleventh Edition, 1989, at page 1204, a copy of which is enclosed, also describes that polyethylene is "stable to water".

Applicants note that the Examiner has relied on the disclosure in Levy of PVA in Example 4, which the Examiner has asserted is a multivalent alcohol.

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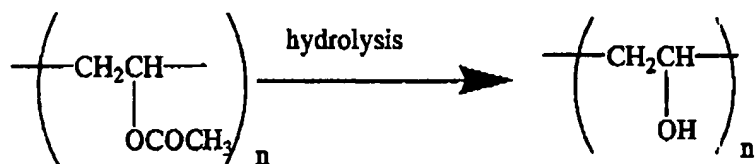
In Example 4, Levy discloses the use of a water soluble polyvinyl alcohol film which has the joint function of a carrier and a coating to make a solid mass. This solid mass was stored in a zip lock bag. In use, cubettes were sectioned from the agglomerated mass.

Applicants point out, however, that in Example 4, PVA is dissolved in water and is used to provide an agglomerated composition comprised of the water-soluble PVA and BItiI bioactive agent. The PVA in Example 4 is not used for enveloping as in the present invention.

Further, as applicants have argued in prior responses, PVA does not satisfy the requirements of a tri- or more valent alcohol. See the Response Under 37 C.F.R. § 1.111 filed on July 25, 2001 and the Response Under 37 C.F.R. § 1.111, filed on November 21, 2001.

Applicants further note that claim 17, whose numbering has been corrected by the Examiner, does not include PVA as a water-soluble hydroxy compound.

Applicants point out that PVA (polyvinyl alcohol) is a water-soluble hydrolysis compound obtained from polyvinyl acetate.



The hydrolysis may not be completed and the available PVAs are hydrolyzed in 80-99%. (cf. Kirk-Othmer: Concise Encyclopedia of Chemical Technology), pages 1228 and 1229, copies of which are attached.

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Such a polymer seems not to be “tri- or more valent alcohols” in claim 1 in the sense of organic chemists. Applicants submit that PVA does not correspond to tri- or more valent alcohols in claim 1, but it may be open to argument if the hydrolysis is complete (100%).

Claim 17 is directed to trivalent alcohols (not including polyvalent alcohol), and it clearly excludes PVA.

In view of the above, applicants submit that Levy does not defeat the patentability of the present claims and, accordingly, request withdrawal of this rejection.

Claims 1, 3, 5, 7, 8, 11 and 12 have been rejected under 35 U.S.C. § 102(b) as anticipated by the newly cited U.S. patent 5,639,465 to Huang et al.

Applicants submit that Huang et al do not disclose or suggest the presently claimed invention and, accordingly, request withdrawal of this rejection.

The Examiner states that the rejection of record is maintained.

The Huang et al patent discloses a granular pesticidal composition that contains 10 to 20% by weight of a pesticide, and a component selected from (i) one or more of ethylene glycol, diethylene glycol, propylene glycol or dipropylene glycol, or (ii) polyvinyl alcohol, and the remainder comprising kaolin or montmorillonite clay.

The Huang et al patent, however, does not disclose the use of an envelope. Huang et al disclose spraying, but spraying does not bring about the formation of an enveloped product.

The Examiner states that there is no requirement for complete encapsulation by the hydroxy compound.

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As discussed above, however, the word “enveloped” requires a complete encapsulation, and the encapsulation is provided by the water-soluble substance, not by the hydroxy compound.

The Examiner further states that Huang et al show some encapsulation which would result from the spraying that Huang et al disclose at column 2, lines 25 and 26.

Spraying, however, does not result in an envelop, which requires a complete encapsulation. In Huang et al, the composition will be impregnated with the sprayed solution, and as a result, an “enveloped” product cannot be obtained from the teachings of Huang et al.

In view of the above, applicants submit that Huang et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

Claims 1, 3, 5, 7, 8, 11, 12 and 17 have been rejected under 35 U.S.C. § 103(a) as obvious over Huang et al in view of U.S. Patent 4,544,693 to Surgant.

Applicants submit that Huang et al and Surgant do not render obvious these claims and, accordingly, request withdrawal of this rejection.

The Examiner states that he is maintaining the rejection of record.

In this rejection, the Examiner recognizes that Huang et al do not specifically employ the term “envelope” to describe their composition. The Examiner argues, however, that Surgant teaches the desirability of limiting the exposure of a user of an agricultural composition to the agricultural chemicals and dust, to provide for ease of storage and handling, and to prevent or avoid the problem of dust which may be irritating and/or toxic to the user, by employing a cold

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water-soluble packaging film to package agriculture chemicals which are in granule or dust form.

The cold water soluble package film in Huang et al can be made from polyvinyl alcohol.

The Examiner argues that it would have been obvious to employ the granular pesticidal compositions of Huang et al in a water soluble envelope such as disclosed in Surgant.

In response, applicants point out that Huang et al relate to a formulation suitable for aerial application, whereas Surgant relates to an improvement in a water-soluble film. Applicants submit that one of ordinary skill in the art would not have had any motivation to combine the teachings of these two references, and that any such combination could only result from hindsight after reviewing the present application.

Applicants submit that the combination of two patents is based on hindsight, and that there is no motivation for the combination.

MPEP 2143.01 (2100-131, Rev. 2, May 2004) says “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430(Fed. Cir. 1990)”. That is also supported in *In re Rouffet*, 47 USPQ2d 1457 (Fed. Cir. 1998):

“virtually all [inventions] are combinations of old elements.”...Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue.

Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention”.

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In the present case, Examiner cannot establish *prima facie* obviousness because he does not show the desirability of the combination.

Surgant merely show that water-soluble packages or bags containing agrochemicals therein. There is no motivation to adopt the addition of the specific hydroxyl compounds to the solid formulation in the water-soluble packages or bags and it is a hindsight.

Further, Surgant's invention is characterized by an improvement of the water-soluble film. In the present invention, the improvement was performed by the components of the composition in the package, not by the film itself. Therefore, one of ordinary skill in the art would not have been led to the present invention from the teachings of the two references, even if the references could be combined.

Further, as set forth in the present specification at page 1, solid formulations that are enveloped in a water soluble polymer film were known in the prior art, but these enveloped formulations were not sufficiently stable because the envelope material may degenerate while they are preserved for a long time and may be broken while preserved or transported. Applicants submit that it was not expected at the time of the present invention that the addition of the specific hydroxy compounds set forth in the present claims to solid formulations would give stability to the film envelope. The present invention solves the stability problem by the addition of the specific hydroxy compounds to solid formulations, not by improving the film envelope itself. Thus, the improved film of Surgant is irrelevant to the present invention.

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In view of the above, applicants submit that Huang et al and Surgant do not defeat the patentability of the presently claimed invention and, accordingly, request withdrawal of this rejection.

Claims 11 and 12 have been rejected under the second paragraph of 35 U.S.C. § 112 as indefinite.

The Examiner states that it is not clear how either PVA, or a water-soluble polymer, has antecedent support in claim 1.

In response, applicants submit that the Examiner has misinterpreted the meaning of the claims.

Thus, claim 1 specifically refers to “a water-soluble substance” as the envelope for the solid pesticidal formulation. Claim 11 states that this water-soluble substance is a water-soluble polymer and claim 12 states that the water-soluble substance is a water-soluble polyvinyl alcohol.

Accordingly, applicants submit that there is clear antecedent basis in claim 1 for a water-soluble substance, which is then further defined in claims 11 and 12.

In view of the above, applicants submit that claims 11 and 12 comply with the requirements of the second paragraph of 35 U.S.C. § 112 and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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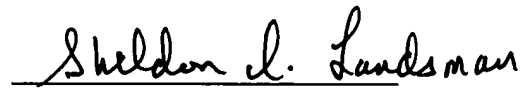
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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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23373

CUSTOMER NUMBER

Date: July 19, 2004